

PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON

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ORDINARY MEETING

WEDNESDAY, 6th MARCH, 1957, at 5.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 16th January, and of the Annual Meeting held on 6th February, 1957.
2. Announcement of Vice-Presidents for 1957.
3. Recommendations of candidates for Fellowship. First reading.
4. Recommendations of candidates for Fellowship. Second reading.
5. Announcement of election of new Fellows.
6. Additions to the Library [see p. 4].
7. Admission of Fellows.
8. Exhibits.

Fellows are particularly requested to bring suitable exhibits to the Meeting even though it may not be possible to announce their intention to do so beforehand.

Note.—To avoid congestion in the Library and to enable exhibits to be displayed to greater advantage, a table has been placed in the meeting-room for this purpose. Fellows are asked to place their exhibits on this table, with a suitable explanatory note, as soon as possible on the afternoon of the meeting, so that they are available for inspection there before the meeting opens.

9. Communications.

1. The Hon. Miriam Rothschild.

Some observations on the Garden Tiger Moth, *Arctia caia* L.

[ABSTRACT.]

The imago of the Garden Tiger Moth (*Arctia caia* L.) and that of the Ruby Tiger Moth (*Phragmatobia fuliginosa* L.) are capable of inflicting a severe and painful sting, apparently with the legs. The pain experienced is of the same

order as that associated with a wasp's sting. The stings were inflicted (a) while insects were walking quietly forward on the bare skin of the victim, and (b) while being held firmly between finger and thumb. With a hand lens ($\times 20$) a double puncture was clearly visible. A red, burn-like mark ($3\frac{1}{2}$ in. \times 3 in.) developed immediately round this puncture, followed shortly by a central, lump-like swelling ($\frac{3}{4}$ in. \times $\frac{3}{4}$ in.) resembling a nettle sting. General swelling of the area ensued, reaching a maximum on the third day. In the case of the child who was stung this swelling extended from knee to ankle ($7\frac{1}{2}$ in.). A small blister with a yellow scab formed near the site, associated with slight discoloration of the skin. This remained clearly visible for about fifteen days.

The necessary stimulus for releasing the impulse to sting was not discovered.

Dr. H. E. Hinton and Dr. J. F. D. Frazer have very kindly examined the leg for me. Dr. Hinton reports as follows :

A new gland in the legs of Arctia : The apodeme of the pretarsal retractor of the Garden Tiger Moth extends from the pretarsus to the proximal part of the femur. In the tibia and tarsus the apodeme is hollow. In the first tarsal segment the epithelium of the apodeme forms a large gland. The secretion of the gland passes down the pretarsal apodeme to the arolium. Contraction of the pretarsal fibres depresses the claws, brings the arolium in contact with the substrate, and appears to force gland secretion into the arolium. The secretion seems to assist the moth in climbing on a smooth surface. During the investigation it was found that connective tissue plays an important and unexpected part in the organisation of the adult leg.

2. Mr. W. H. Potts.

Some effects of gamma rays on tsetse pupae (*Glossina morsitans* Westw.)

[ABSTRACT.]

Irradiation of tsetse pupae with gamma rays at dosages of 3000, 6000 and 12,000 rontgens, carried out with the help of the Atomic Energy Research Establishment at Harwell, has resulted in the sterilisation of both sexes of the emergent flies, as American workers had previously found with the Screw-worm fly (*Callitroga hominivorax* Coquerel). The resultant females, with a few exceptions, showed no development of the ovaries, and none at all produced larvae. The males from the irradiated pupae showed on dissection apparently normal testes, which produced a normal quantity of spermatozoa, as shown in the spermathecae of the females to which they were mated; these females, however, failed to produce offspring (again with a few exceptions). Points of interest are (1) that the female reproductive organs appear to be more drastically affected than the male, and (2) that the effect of irradiation seems to be confined to the reproductive organs, the emergent flies presenting otherwise a completely normal appearance, though there are indications that their longevity is appreciably lessened. The bearing of this on the control of tsetse flies is discussed.

TEA will be served in the Library before the meeting.

NOTICES.

Provision of refreshments after Ordinary Meetings.

Coffee and biscuits will be available in the Library after the meeting on payment of one shilling per person. Fellows intending to stay for these refreshments are asked to sign the list beside the Attendance Book before 5.30 p.m.

The Library will continue to be closed at the end of the meeting.

Forthcoming Ordinary Meetings.

Preliminary notice is given below of the principal papers to be read at the next two Ordinary Meetings.

3rd April, 1957.

- (1) To be arranged.
- (2) **Dr. P. S. Corbet.**—Freshwater entomology in the lakes and rivers of East Africa.

1st May, 1957.

Dr. H. E. Hinton.—The function of the tissue isolated in the pupal gill of a Tipulid at the pupa-adult moult.

PROCEEDINGS OF THE ANNUAL MEETING HELD ON 6TH FEBRUARY, 1957.

Dr. W. J. HALL, C.M.G., M.C., President, in the Chair.

Present, 91 Fellows and 2 Visitors.

The Secretary read the names of the Officers and Council for 1957, and the President declared them duly elected in accordance with the Bye-Laws.

Mr. P. Graham and Mr. E. R. Nye signed the Obligation Book and were admitted Fellows of the Society.

The Secretary read the Report of the Council, which was adopted on the proposal of Dr. J. L. Cloudsley-Thompson, seconded by Sir Eric Ansorge.

The Treasurer read his Annual Report, and this, with the accounts for the year ending 31st December, 1956, was adopted on the proposal of Mr. G. J. Kerrich, seconded by Mr. C. T. Gimingham.

The President then made his Remarks and expressed the Society's appreciation of the work of Mr. Balfour-Browne, who now found it necessary to retire from the office of Editor, which he had held for the past five years.

The President then delivered his Address, after which a vote of thanks to him on the completion of two years of office, and to the Treasurer, Secretary and Editor for their services throughout the year was proposed by Dr. K. Mellanby, who expressed the hope that the President would permit his Address to be published in the *Proceedings*. The President acknowledged the vote of thanks to the Officers and granted this request.

E. B. BRITTON, *Honorary Secretary.*

The next meeting will be held on 3rd April, 1957.

ADDITIONS TO THE LIBRARY.

Presented

- British Museum (Natural History). *Expedition to South-West Arabia* 1937-8 Vol. 1. No. 27. *Hemiptera*: TINGIDAE by C. Drake. No. 28. *Isoptera* by W. V. Harris. No. 29. *Coleoptera*: ANTHICIDAE by M. Pic. No. 30. *Coleoptera*: SCRAPTHIDAE and MORDELLIDAE by M. E. Franciscolo. No. 31. *Hymenoptera*: VESPIDAE by A. G. Soika. No. 32. *Revised list of Mr. Philby's collecting stations* by H. Scott. No. 33. *Coleoptera*: PAUSSIDAE by A. Reichensperger. 8vo. London, 1957 [Trustees of the British Museum.]
- Calvert, P. P. The neotropical species of the "subgenus *Aeschna*" sensu Selysii 1883 (Odonata). *Mem. Amer. ent. Soc.* **15**: 1-251. 1956. [American Entomological Society. By exchange.]
- Kocher, L. Catalogue commenté des Coléoptères du Maroc. Fasc. IV. Clavicornes. Fasc. V. Hétéromères. *Trav. Inst. Sci. Chériften (Zool.)* 10 and 11. 1956. [The Publishers.]
- Macan, T. T. A revised key to the British Water bugs (Hemiptera-Heteroptera) with notes on their ecology. *Sci. Publ. freshw. biol. Assn. Brit. Emp.* **16**: 73 pp. 1956. [The Author.]
- Neboiss, A. A Check list of Australian ELATERIDAE (Coleoptera). *Mem. nat. Mus. Vict. (Ent.)* **1**: 1-75. 1956. [The Author.]
- [Rubtsov, I. A. *Diptera*. Tom. VI, no. 6 (fam. SIMULIIDAE) 2nd ed.] 8vo. Moscow and Leningrad, 1956. *Fauna of U.S.S.R. (N.S.)* **64**. [Academy of Sciences of U.S.S.R. By exchange.]

Purchased.

- Bastin, H. *Insect communities*. 8vo. London, 1956.
- Brown, A. W. A. *Insect control by chemicals*. 8vo. New York, 1951.
- Godwin, H. *The History of the British Flora*. 4to. Cambridge, 1956.
- Khalifman, I. *Bees: a book on the biology of the bee-colony and the achievements of bee-science*. 8vo. Moscow [1955].
- Kihara, H., editor. *Fauna and Flora of Nepal Himalaya. Scientific Results of the Japanese Expedition to Nepal Himalaya, 1952-53*. Vol. 1. 8vo. Kyoto, 1955.
- Pavia.—Centro di Genetica del Consiglio nazionale delle Ricerche presso l'Università di Pavia. *Symposia Genetica*, Vol. IV. *In onore di Battista Grassi nel centenario della sua nascita*. 8vo. Pavia, 1956.
- Schmidt, F. L. and Märker, H. *Exotische Tagfalter*. 8vo. Kaiserlautern [1955 ?].
- Stichel, W. *Illustrierte Bestimmungstabellen der Wanzen*. II. Europa. Hft. 16. 8vo. Berlin-Hermsdorf, 1957.

In addition, separates have been presented by Dr. A. M. Masee; Rothamsted Experimental Station; American Entomological Society; Dr. Ch. Ferrière; Zoologisches Institut der Universität, Tübingen; Zoologische Sammlung des Bayerischen Staates; Dr. D. J. Lewis; Mr. D. S. Bertram; Dr. G. D. Morison; Dr. N. L. Birkett; Mr. J. Williamson; University of California Press; Institute of Biology; Mr. B. Jobling; Dr. P. T. Haskell; Dr. A. M. Easton and Mr. W. O. Steel.